MARINE RECREATIONAL INFORMATION PROGRAM

FY Project Plan

Development of Relational Databases for Onboard Observer Data and Creation of Abundance Indices for Use in Stock Assessments

Created on

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1. Overview

1.1. Background

Recreational catch and effort estimates rely on dockside sampling programs. By intercepting anglers at the end of their trip, these programs provide information about catch, effort, and fishing location aggregated over an entire trip. While this approach is appropriate for estimating total fishing mortality, it obscures relationships between retained and discarded catch, location-specific catch compositions, and fine-scale spatial distribution of effort. Sampling programs in which onboard observers accompany anglers to each site provide angler- and site-specific data on catch, effort, and discard. These data are particularly valuable for stock assessments, because they contain disaggregated information about catch rates, species composition, and location. Onboard observer programs conducted by the California Department of Fish and Game (CDFG) and Oregon Department of Fish and Wildlife (ODFW) collect angler-specific catch and effort data. These programs do not focus on estimation of trends in catch rates, but rather other quantities that cannot be estimated through dockside sampling (e.g. average weights of discarded fish). High-resolution (angler-specific) catch rate data from onboard observers should be better estimators of density, compared to aggregated data from dockside programs. Analysis of discard length compositions could also help inform stock assessments through improved estimates of size-based selectivity and retention. In addition to recent, ongoing data-collection efforts, historical data are also available from discontinued onboard observer programs. CDFG conducted onboard CPFV sampling during the 1970s, 80s, and 90s in southern and central California. Databases from these studies have been made available to NMFS personnel (and occasionally used in assessments) but no comprehensive effort has been made to develop time series of abundance using a standardized approach.

1.2. Project Description

The proposed study evaluates the potential of existing historical databases from recreational sampling programs along the U.S. West Coast to develop time series of relative abundance, a critical component of stock assessment efforts. Fishery-independent survey data do not exist for many recreationally-important species (e.g. nearshore groundfish); therefore, development of fishery-dependent time series could greatly improve efforts to estimate stock status and sustainable yield. Fishery-dependent data are typically available from Pacific RecFIN and the three West Coast states in flat files. Thus an important aspect of this project involves creation of relational databases to provide linkages across databases needed for stock assessment.

1.3. Objectives

The objective of the proposed study is to enhance the use of recreational fishery data by stock assessors.

1.4. References

2. Methodology

2.1. Methodology

The Principal Investigator proposes to supervise and assist research conducted by a graduate student researcher, for a period of one year. Specific tasks and deliverables include:
1. Compile and format data from CPFV onboard observer programs into relational database format
2. Explore relationships between data from onboard sampling programs and standard dockside / logbook sampling
3. Develop time series of relative abundance using standardized statistical methodologies (e.g. generalized linear models)
4. Develop and provide documentation of relational database for use by stock assessment community
5. Prepare results for peer-reviewed publication

2.2. Regions

2.3. Geographic Coverage

California and Oregon

2.4. Temporal Coverage

Historical and recent observer data dating from the 1970s

2.5. Frequency

NA - data already collected

2.6. Unit of Analysis

2.7. Collection Mode

NA - data already collected

3. Communications Plan

3.1. Internal

The P.I. will have weekly meetings with the contractor to discuss progress and methods. Both the P.I. and contractor will be working in the same facility, so communication will be in person and via email.

3.2. External

P.I. and contractor will determine points of contact at state agencies, and provide updates via email or phone on a regular basis. Monthly reports will be submitted to the MRIP Operations Team.

4. Assumptions and Constraints

4.1. New Data

No

4.2. Track Costs

4.3. Funding Vehicle

Cooperative Institute for Marine Ecosystems and Climate (CIMEC)

4.4. Data Resources

Data from onboard sampling programs in California and Oregon have been made available to stock assessment authors online as text files. However, analysis of these data for purposes related to stock assessment will require development of relational databases to link boat, location, and catch records.

4.5. Other Resources

Communication with state agencies to understand sampling procedures will be critical.

4.6. Regulations

4.7. Other

5. Risk

5.1. Project Risk

Table 1: Project Risk

Risk Description	Risk Impact	Risk Probability	Risk Mitigation Approach

6. Final Deliverables

6.1. Additional Reports

Manuscript for submission to journal

6.2. New Data Sets

6.3. New Systems

Relational database derived from observer data for use by stock assessors

7. Project Leadership

7.1. Project Leader and Members

Table 2: Project Members

Project Role	Name	Organization	Title

8. Project Estimates

8.1. Project Schedule

Table 3: Project Schedule - Major Tasks and Milestones

#	Schedule Description	Planned Start	Planned Finish	Prerequisites	Milestones

8.2. Cost Estimates

Table 4: Cost Estimates

Project Need	Cost Description	Date Needed	Estimated Cost
TOTAL			$0.00